

DESCRIPTIONS AND FIGURES OF SOME LAND AND
FRESH-WATER SHELLS FROM MEXICO, BELIEVED TO
BE NEW.

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In 1907 Dr. E. Palmer sent in to the United States National Museum a few land shells from Tamaulipas, Mexico, two of which appear to be undescribed, one of them exhibiting a new form of armature on the axis. These are here described, and to these are added some species collected by Nelson and Goldman in 1898, which, though recognized as new and figured at that time, have not hitherto been published.

Genus CŒLOCENTRUM Crosse and Fischer.

Section CROSSOSTEPHANUS Dall, new.

A *Cœlocentrum* with axis armed with a turgid spiral ridge, extending through the space of several whorls and axially sculptured with numerous cord-like short ribs, which on the anterior face of the ridge overhang like a fringe, ceasing with the penultimate whorl; the axis in the last whorl behind the last half of the whorl is twisted and obliquely truncate.

Type.—*Cœlocentrum palmeri* Dall and Bartsch.

CŒLOCENTRUM (CROSSOSTEPHANUS) PALMERI Dall and Bartsch, new species.

Plate XXIX, figs. 2, 5.

Shell with more than twenty-four whorls of which, in the adult, about thirteen remain, the rest having been detached: color a bright yellowish brown when fresh, the interior of the aperture whitish: whorls moderately rounded, obsolete spirally striated: sculpture consisting of a thread-like fine keel just in front of the suture, which is flattened behind it: a second wider and less distinct thread marginates the base: the effect of these threads is to give the

suture a channeled look; axial sculpture of numerous (on the penultimate whorl about 80) slightly elevated threads, equal and more or less equally distributed, rising abruptly from the surface of the whorl with the much wider interspaces flattish between them; the threads are concavely arcuate and slightly retractive; on the base they are continued to the axis, closer and sometimes bifurcate; the same sculpture as that on the permanent whorls also appears on the truncate portion of the spire; aperture produced, with a slightly reflected entire lip; form of the opening obscurely triangular; axis proportioned as figured, the ribs of the fringe in the penultimate whorl showing a tendency to break up into drops or beads; in the upper part of the spire, as the axis becomes attenuated, the ribs are less prominent, less distinct, and less numerous; on the later whorls they number about 2 to a millimeter; there are about 28 in the last whorl containing them; they are slightly retractively oblique and tend to overlap each other in a forward direction. The measurements of several adult specimens are as follows, in millimeters:

Height.	Whorls.	Maximum diameter.	Diameter at truncation.
52	14.0	13.5	4.5
45	12.0	13.0	6.2
52	13.0	14.0	5.5
51	13.0	13.0	6.0
50	14.0	14.0	5.5
Average. .50	13.2	13.5	5.35

Type.—Cat. No. 198083, U.S.N.M. Collected at Tamaulipas, Mexico, by Dr. Edward Palmer.

There is some variation in the outlines of the shells, some being more cylindrical, and in others the maximum diameter is not always in the same relative position.

Genus STREPTOSTYLA Shuttleworth.

STREPTOSTYLA BARTSCHII Dall, new species.

Plate XXIX, fig. 1.

Shell short, stout, subcylindric, with $7\frac{1}{2}$ whorls, a thin yellow-brown periostracum over a milk-white test; spire bee-hive shaped, bluntly pointed, with moderately convex whorls; first $2\frac{1}{2}$ whorls smooth, polished, white; subsequent whorls by degrees more strongly sculptured with fine, nearly vertical, close-set, rounded, slightly flexuous riblets, subequal and subequally distributed, with very narrow interspaces, and extending from suture to suture; on the last whorl the riblets are decidedly feebler in front of the middle of the whorl; suture deep, distinct, not channeled or appressed; aperture

rather narrow; outer lip slightly flexuous, produced near the middle; inner lip with a slight glaze on the body; pillar very short, strongly twisted, its outer edge slightly thickened, a deep, rounded oblique sulcus in front of it; anterior margin of the aperture extended in front of the end of the pillar. Length 32; of spire 15; maximum diameter 16.5 mm. Another measures 35 mm. long and 17 in maximum diameter.

Type.—Cat. No. 198090, U.S.N.M. Tamaulipas, Mexico, Dr. E. Palmer.

Named for Dr. Paul Bartsch of the U. S. National Museum.

Especially characteristic are the rounded, bee-hive shaped spire and the flexuous outer lip.

STREPTOSTYLA TOYUCA Dall, new species.

Plate XXIX, fig. 6.

Shell melampiform, rather large, flesh-colored, with about 7 whorls, separated by a narrow, rather deeply channeled suture; spire conic, subturritid; nucleus of less than 1 whorl, obscurely radially wrinkled; following whorl and a half with flexuously radial small wrinkles, which at the periphery break up into numerous hair-like prolongations, the whole not unlike a paint brush except for the flexuosity; adult sculpture in front of the suture of fine, sharp, elevated, vertically axial lines, with wider flattish interspaces about half a millimeter wide; in the interspaces are one or two faint axial wrinkles; at about the beginning of the penultimate whorl these wrinkles, about midway between the sutures, rise to an equality with the elevated lines and so continue, even and regular, to the anterior end of the shell; there is no spiral sculpture except occasional impressed lines apparently due to fractures; last whorl flattish at the sides, conic, aperture narrow; outer lip thin, excavated in front where it turns to meet the axis; pillar thin, strongly contorted, but not pervious. Altitude of shell 27; of aperture 17; maximum diameter 15 mm.

Type.—Cat. No. 107822, U.S.N.M. Collected by E. A. Goldman, of the U. S. Biological Survey, at Metlal toyuca, Puebla, Mexico.

Remarkable for its apical sculpture and channeled suture.

STREPTOSTYLA JILITLANA Dall, new species.

Plate XXIX, fig. 8.

Shell thin, light straw-colored, subtranslucent, with about $6\frac{1}{2}$ whorls, separated by a distinct but not channeled or denticulate suture; spire short and blunt; nucleus brilliantly polished, smooth, glassy for about $2\frac{1}{2}$ whorls, when the axial sculpture is gradually developed; adult sculpture of slightly flexuous, rather broad, flattish, equal riblets with sharply grooved linear interspaces, about

three riblets to a millimeter; the riblets become feeble near the anterior end of the shell; whorls evenly rounded, with no spiral sculpture; aperture narrow behind, a thin glaze on the body and pillar; axis thin, strongly twisted, minutely pervious. Altitude of shell 23; of last whorl 20; of aperture 15; maximum diameter 13 mm.

Type.—Cat. No. 107821, U.S.N.M. Collected by E. W. Nelson, U. S. Biological Survey, at Jilitla, San Luis Potosi, Mexico.

Of the general type of *S. bartschii*, but with different proportions and a less deeply impressed suture. The beautifully polished smooth nucleus in these species contrasts strongly with the costulate nucleus of *S. toyuca*. The two types seem to represent the melampiform profile, one in *Streptostyla* s. s. and the other two in *Chersomitra*.

Genus EUGLANDINA Pilsbry.

EUGLANDINA LIVIDA Dall, new species.

Plate XXIX, fig. 7.

Shell thin, elongate, slender, with about $7\frac{1}{2}$ slightly rounded whorls, of a dark livid purple-brown color; suture simple, not channeled, here and there irregularly crenate on the upper whorls by the ends of the axial wrinkles; apex somewhat swollen and quite blunt; nucleus beginning with a very small coil and perfectly smooth and polished for rather more than three whorls before any indication of wrinkling appears; on the fourth, fifth, and sixth whorls the surface is sculptured with feeble, nearly vertical axial wrinkles; these are more or less irregular in size, with here and there still smaller and more feeble wrinkles intercalated; occasionally at the suture the ends of the wrinkles are prominent, but not uniformly so and not all so on the last whorl; there are no traces of any kind of normal spiral sculpture; aperture shorter than the spire; narrow behind, outer lip thin and sharp; body without glaze, pillar arcuate and truncate; axis not pervious; altitude of shell 61; of last whorl 43; of aperture 27; maximum diameter 22 mm.

Type.—Cat. No. 107820, U.S.N.M. Collected by J. N. Rose, of the U. S. National Museum, between Bolanos and Guadalajara, Jalisco, Mexico.

Nearest to *E. rosea* Féussac, but of different color and sculpture.

ANODONTA COARCTATA Anton.

Plate XXIX, figs. 3, 4.

Cat. No. 109282, U.S.N.M. Collected at Ocotlan, Jalisco, Mexico, by E. W. Nelson, U. S. Biological Survey. Lake Chapala, State of Jalisco, Mexico, Crosse and Fischer.

This species has been figured before, but the opportunity of illustrating the uneroded beak sculpture seemed to be a good one.

LAMPASILIS (PROPTERA) SALINASENSIS Simpson, new species.

Plate XXX, fig. 3.

Shell somewhat obovate, subcompressed or convex, inequilateral, moderately solid; beaks small, nearly or quite smooth, pointed and turned forward over a small lunule, subcompressed; posterior ridge rounded, ending in a blunt point below the median line of the shell; anterior end narrowed, rounded, basal and dorsal outlines lightly curved; surface with irregular growth lines, and traces of microscopic radial sculpture; dorsal slope feebly nodulously sculptured; epidermis yellowish green with feeble wide or narrow greenish rays and a yellowish band near the border; pseudocardinals subcompressed, ragged, two in each valve; laterals remote, delicate, double in the left valve, single in the right, much elevated behind; muscle scars rather shallow; nacre blue, with a wide prismatic border. Length, 70 mm.; height, 40 mm.; diameter, 20 mm.

Salinas River, Coahuila, Mexico, Nelson and Goldman; also from Valles River, Valles, Mexico, A. A. Hinkley.

The types are Cat. No. 163156, U.S.N.M.

Three shells were collected, all of which are probably young. It is quite likely that adult shells will prove to be brown. The species seems nearest to *L. explicata* Morelet, several fine specimens of which are in the National Museum collection. It is obovate instead of true rhomboid, as is that species, and has more compressed and sharper beaks. The posterior slope of *L. explicata* is nearly or quite smooth, while in the present species it is corrugated. Our specimens are probably all females.

DIPLODON WEBSTERI Simpson.

Plate XXX, figs. 1, 2.

Diplodon websteri SIMPSON, Nautilus, XVI, No. 3, p. 30, July, 1902.

Collected by Rev. W. H. Webster, of Wauiku, New Zealand. Cat. No. 162342, U.S.N.M.

A figure of this species, of which the type is in the U. S. National Museum, has been frequently called for, and the present opportunity was thought suitable, the drawing by the late Dr. J. C. McConnell having been in hand a long time.

EXPLANATION OF PLATES.

PLATE XXIX.

Fig. 1. *Streptostyla bartschii* Dall; length 32 mm.; p. 178.

2. *Calocentrum (Crossostephanus) palmeri* Dall and Bartsch; exterior, with part of the truncated spire restored; height of shaded portion 50 mm.; p. 177.
3. *Anodonta coarctata* Anton; magnification of umbo to show concentric undulate sculpture; p. 180.
4. *Anodonta coarctata* Anton; length of shell 44 mm.; p. 180.
5. *Calocentrum (Crossostephanus) palmeri* Dall and Bartsch; section showing armature of axis; total length 67 mm., the upper whorls restored; p. 177.
6. *Streptostyla toyuca* Dall; alt. 27 mm.; p. 179.
7. *Euglandina livida* Dall; alt. 61 mm.; p. 180.
8. *Streptostyla jilillana* Dall; alt. 23 mm.; p. 179.

PLATE XXX.

Fig. 1. *Diplodon websteri* Simpson; interior view of left valve; length 66 mm.; p. 181.

2. The same, exterior of right valve.
3. *Lampsilis salinasensis* Simpson, showing exterior of right and hinge of left valve; length 69 mm.; p. 181.